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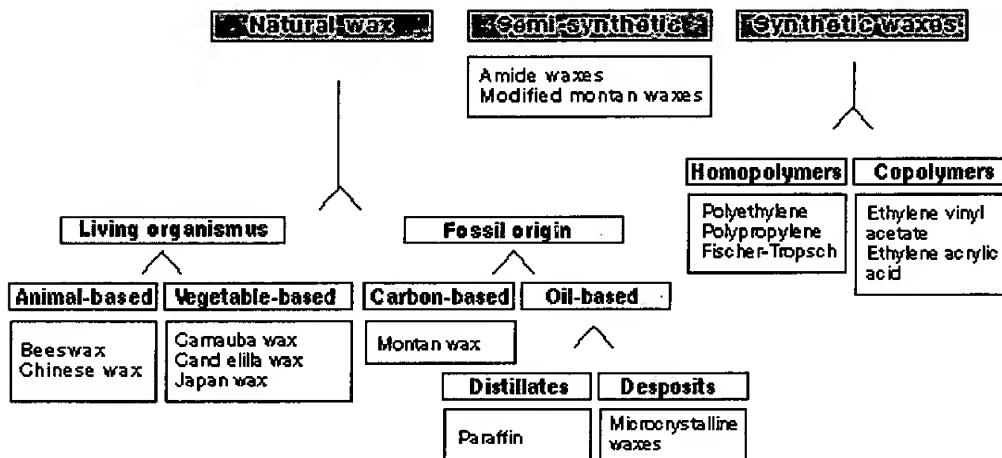
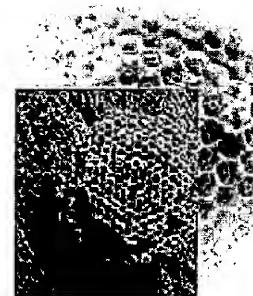
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A little bit of "waxology" ...



In the past most people originally understood the term **wax** to relate only to **beeswax**. In those days it was still possible to give an unique answer, in a chemical sense, to the question "what is a wax?". Since fossil products such as paraffin wax and montan wax appeared later, a chemical definition became impossible. The chemical composition alone does not determine what a wax is. Rather, wax is a technological umbrella concept for materials that behave like waxes, i.e., which have:

- a melting point of at least 40°C (as opposed to fats and oils)
- a relatively low melt viscosity, non-stringing, but producing droplets (unlike most resins and plastics)
- no chemical decomposition at higher temperatures (which distinguishes them from natural resins).



Excellence in wax

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BYK-Cera - excellence in wax

BYK-Cera has acquired over 25 years of experience and competence in the development of wax additives for the paints and printing inks industry. A customer orientated approach is the thread that runs through our operations - all the way from the development of innovative products up to prompt delivery.

One of our basic aims: close contact with customers worldwide!

ISO 9001

Privateer - toll manufacturing at the highest level

As a special service, we are glad to place at your disposal our capacities and capabilities to manufacture your own waxes. With guaranteed confidentiality we manufacture your products to the highest levels of quality to your own formulas. For the customer, this means a service that ensures reduced investment costs, greater flexibility and guaranteed reproducibility by our expertise in the field of wax.

Product development and application technology

Our activities concentrate on the processing of hard waxes in wax dispersions and emulsions and in the form of micronized waxes.

BYK-Cera and BYK-Chemie

The company BYK-Cera has its origin in CERA Chemie b.v., which was founded in 1972.

In 1991 BYK-Cera became a subsidiary of BYK-Chemie. This laid the foundation stone for an alliance which guarantees a well-rounded range of products and services as well as joint operations in markets worldwide.

Customer oriented product development, application-technology-related testing and production are all backed up by ISO 9001 certification.

The advantage for you is our flexibility

Our selection of waxes that includes the majority of all the waxes available worldwide can be supplied by us on demand. They are stored according to their properties and characteristics in large quantities so that they can be used quickly and flexibly as components for your products. This system means that sometimes we are even in a position to make the impossible possible for you.

BYK-Cera is your service worldwide. This is how it is: Service from some long-standing companies is usually really good, representative offices worldwide, dear offices in 32 countries around the world. There is also, you and your business benefit from our experience and our know-how. Our current range of offerings and services is summarized in the following pages.

We make waxes usable

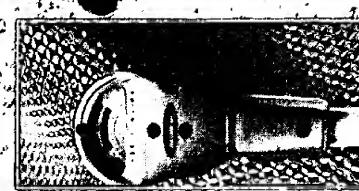
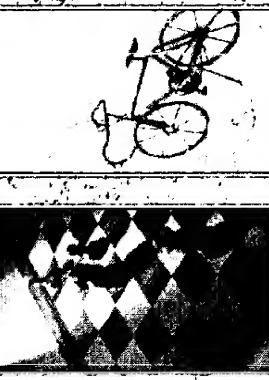
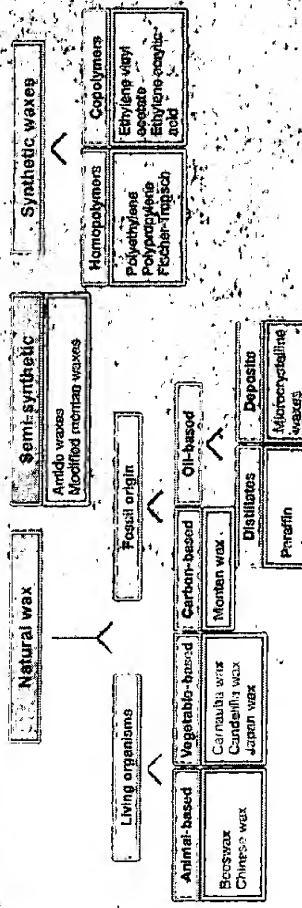
Many different capabilities lie hidden within waxes of exactly the same origin. At BYK-Cera we have applied ourselves to this task. Since 1972, and the results of our endeavours are there for all to see.

A little bit of "waxology" ...

What people often only understand by the term wax is only beavery. In those days it was still possible to distinguish the question "what is wax?" in a dramatical sense.

Since fossil products such as paraffin wax and mineral wax appeared later, a chemical distinction became impossible. The chemical composition alone does not determine what a wax is. Rather, wax is a technological umbrella's concept of substances that before the words, i.e., paraffin, there:

- a number of wax or at least 40°C
- has a certain fat and oil
- has a very low melt viscosity, non-stringing, low in dairy droplets, unlike most resins (from natural resins).
- no chemical decomposition at higher temperatures (which distinguishes them from natural resins).



Two major properties set the standard for the importance of wax additives: surface protection and rheological effect.

Wax additives of surface protection

On the one hand, we know the performance capabilities of waxes and what is much more important, we know how to make these capabilities visible.

If you consider that nowadays nearly all consumer goods contain waxes, you will get an idea of the relevance of our business.

Further processing as a prerequisite

Today's applications for waxes place a premium on semi-synthetic and synthetic waxes. The ability to make chemical modifications puts us in the position to directly influence the properties of the wax. This further processing primarily involves emulsification, dispersion, precipitation and also micronization. An extremely wide variety of wax additives is produced as a result.

A wax-dispersion disp. has the property of affecting the rheological behavior of a paint system. It would be possible to have metallic particles if wax dispersions did not have state of the required orientation of the aluminum particles.

Wax dispersions also have the ability to stabilize emulsions, and thus prevent settling out and sedimentation.

Our waxes play a major role in the most various areas in daily life. Whether in paints and varnishes for furniture and wood surfaces of all types, powder paints for bicycles, computers or "white goods", or as a metallic base paint for the auto industry - wax additives from BYK-Cera are made for success, so to speak.

A product palette that leaves nothing to be desired!

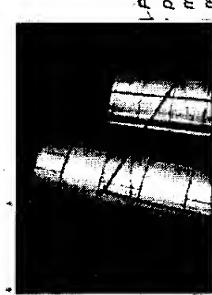
Clos attention and careful monitoring from the very start:

For us development and applications technology go hand in hand.



Our quality control guarantees products of consistent quality at the highest level.

Private means: contract production perfectly matched to the customer's requirements.



Modern logistics form the basis of our deliveries.



Local conditions for storage with over 5,000 square metres of warehouse.

Reliable production and prompt deliveries.

With BYK-Cera wax additives you have all the solutions known to science in your hands. We are proud to be able to help you in so many different ways today - and we are working hard on the tasks still unsolved.

field of aqueous paint systems.

Thanks to a particle size of $< 0.3 \mu\text{m}$, Aquacer wax emulsion is the right choice for high-gloss paint systems. Aquamat products find a ready application in everything from silk-finish to matt systems.

Wax additives for solvent-based systems

Ceratak, Ceramat and Ceratix are wax dispersions whose particle sizes are considerably larger than those of Aquacer wax emulsions. This circumstance influences the glossiness of the paint system.

At further advantage of these wax dispersions lies in the fact that they affect the rheology of the paint system.

Wax additives in aqueous systems

Aquacer aqueous emulsions and Aquamat wax dispersions are the two product groups by which BYK-Cera covers the

multiplicity of application areas and the wide variety of paint systems on the market mean that extremely varied demands are made on wax additives. Our product ranges have been developed over many years in response to these demands.

Modern logistics form the basis of our deliveries.

Our product explanatory brochure **G2** gives comprehensive information on the composition, characteristics, areas of application and properties of our products.

Aquacer wax emulsions

Primarily in water

Aquamat wax dispersions

Primarily in water

Ceratak wax dispersions

Primarily in non-polar solvents

Ceratix wax dispersions

Primarily in non-polar solvents

Ceramat wax dispersions

Primarily in polar solvents

Ceratol - micronized waxes

Solvent-free

Minerpol wax pastes

Primarily in mineral oil and binders